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PLANT IMMIGRANTS.

No. 188. DECEMBER, 1921.

GENERA REPRESENTED IN THIS NUMBER.

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Plates:

295. The Andean raspberry, natural size - (*Rubus glaucus*).
296. A wild red raspberry from the Volcano of Tungurahua - (*Rubus roseus*).*

*This raspberry has been identified since the plate was printed.

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This circular is made up largely from notes received from our agricultural explorers, foreign correspondents, collaborators, and others relative to the more important plants which have been received recently by the Office of Foreign Seed and Plant Introduction of the Department of Agriculture. In it are also contained accounts of the behavior in America of plants previously introduced.

Descriptions which appear here are revised and published later in the Inventory of Seeds and Plants Imported.

These are ONLY ANNOUNCEMENTS OF THE ARRIVAL OF THE PLANT MATERIAL. With the exception of seed received in quantity, it must be propagated before it is available for the experimenters. This requires from one to four years, depending upon the species and the amount of material imported.

The Annual List of New Plant Introductions which is issued every autumn gives descriptions of the material ready to send out to experimenters. You can apply for any material described in Plant Immigrants and your application will be kept on file and given precedence whenever the material is sent out. If the number of such applications on file is sufficient to exhaust the available supply of any particular plant, it will not be described in the Autumn List of New Introductions.

One of the objects of the Office of Foreign Seed and Plant Introduction is to secure experimental quantities of new or rare foreign seeds or plants for plant breeders and experimenters, and every effort will be made to fill specific requests.

DAVID FAIRCHILD,
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction.

Issued March 31, 1922. Washington, D. C.

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Aesculus turbinata (Aesculaceae), 54524. **Japanese horse-chestnut**. From Rochester, N. Y. Seeds presented by Mr. John Dunbar, Assistant Superintendent of Parks, Rochester, N. Y. "This is a rare tree in this country and in Europe." (Dunbar.)

A Japanese horse-chestnut up to 100 feet in height, with bright deep-green leaves sometimes 27 inches long, which turn clear golden yellow in the autumn. The erect, slender pyramidal panicles, nearly a foot long, are composed of creamy-white flowers with petals center-blotched with yellow turning pink with age. The tree is distinguished from the familiar European *Aesculus hippocastanum* by the smaller warty capsules 2 inches in length and width, and by the finely and more evenly toothed edges of the leaflets. (Adapted from Curtis's Botanical Magazine, pl. 8713.)

Calotropis procera (Asclepiadaceae), 54451. From Syria. Seeds presented by Mr. W. R. Meadows, through Mr. C.S. Scofield, U. S. Department of Agriculture. "A plant in which Mr. Meadows is particularly interested. It is known, where he collected it, as artificial silk or vegetable silk. He found it growing at Haifa, Syria, on September 7, 1921. Mr. Meadows believes the fiber to have sufficient strength to be used as a filler yarn, and hopes that the plant may be produced under observation at some point in the southwestern States." (Scofield.)

Chayota edulis (Cucurbitaceae), 54517 and 54518. **Chayote**. From Vera Cruz, Mexico. Seeds presented by Mr. Paul H. Foster, American Consul. Quoted notes by Mr. L.G. Hoover.

54517. "Fruits white, smooth, spineless, flattened oval to pyriform; about 9 ounces in weight; no wrinklings; 4 inches long, 2½ inches wide and 2 inches thick. A desirable type."

54518. "Fruits light green, with a smooth, spineless surface, with five slight wrinklings, flattened oval to pyriform; weight about 9 ounces; a desirable type."

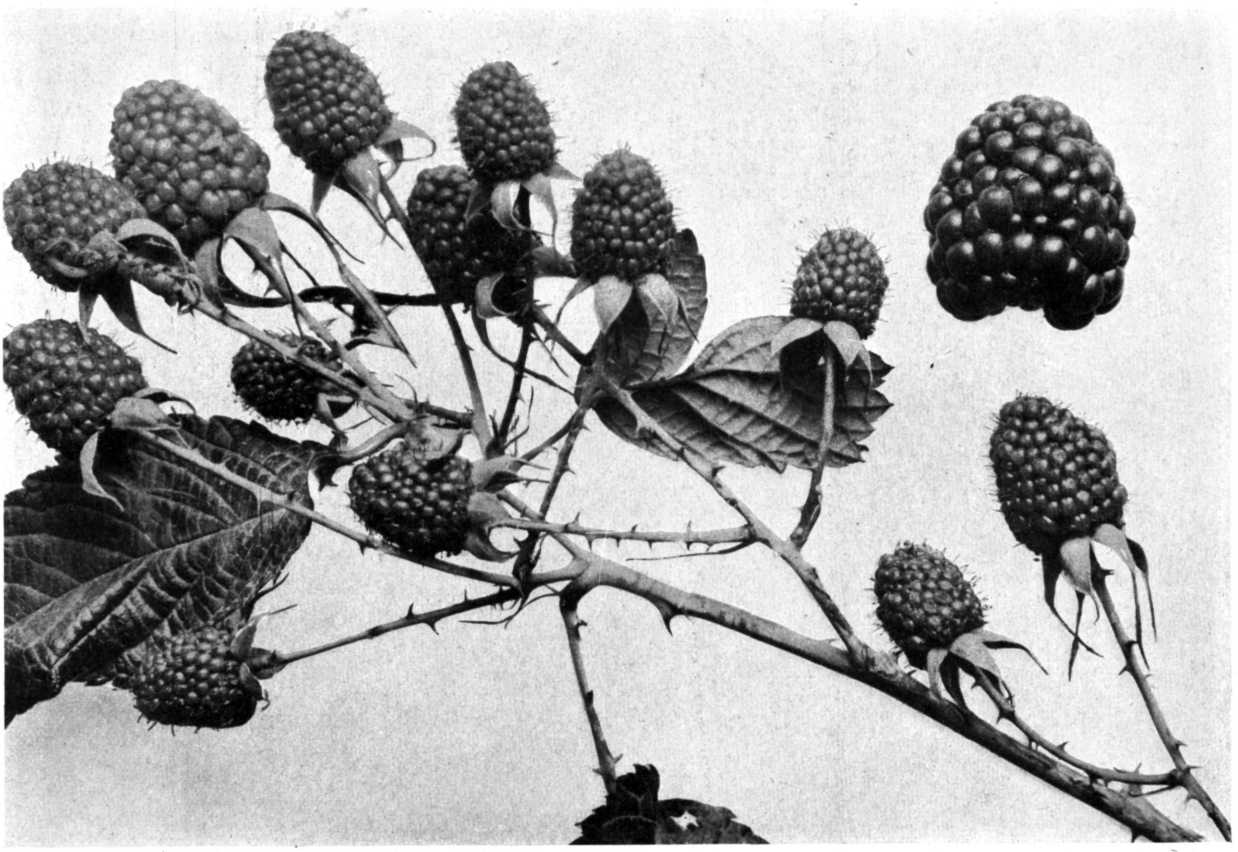
Dendrocalamus brandisii (Poaceae), 54429. **Bamboo**. From Dehra Dun, Punjab, India. Seeds presented by Mr. R.S. Hole, Forest Botanist, Forest Research Institute and College. A large, evergreen, tufted bamboo with ashy-gray to greenish-gray stems 60 to 120 feet in height, 5 to 8 inches in diameter, slightly branched below,

more so above, and having thick walls. This splendid bamboo is often confused with the somewhat similar *Dendrocalamus giganteus* from which it is easily distinguished by the much smaller spikelets and thicker-walled culms. It also closely resembles *D. flagellifer*. The stems are said to be used for building. (Adapted from Annals of the Royal Botanic Garden, Calcutta, vol.7, p. 90.)

Dendrocalamus sikkimensis (Poaceae), 54450. **Bamboo.** From Dehra Dun, U.P., India. Seeds presented by Mr. R.S. Hole, Forest Botanist, Forest Research Institute and College. A beautiful tufted bamboo with few culms 60 feet or more in height; it grows largest in Sikkim where it has larger culms than those of *Dendrocalamus hamiltonii*, and is the one preferred for making the "chungas" for carrying water and milk, and for churning butter. The dark green culms 5–7 inches in diameter, are naked below, and branched above. The oblong-lanceolate leaves, 6 to 10 inches long, are said to be poisonous. The species is readily distinguished by its large, red-brown, globose flower heads, its densely velvety felted stem-sheath, and the long-ciliate auricles of its leaf sheath. Native to the northeast Himalayas in Sikkim and Bhutan at altitudes of 4,000 to 6,000 feet; and at Tura Peak, Gara Hills, at 3,500 feet. (Adapted from Annals of the Royal Botanic Garden, Calcutta, vol. 7, p. 82.)

Holcus sorghum (Poaceae), 54435. **Sorghum.** From Sydney, New South Wales. Seeds presented by Mr.E.Breakwell, Agrostologist, Botanic Gardens, through Mr.H.N. Vinall, U. S.Department of Agriculture. "'Saccaline.' A strain of sweet sorghum. It is very superior to those grown in the States, seed of which we obtained and grew side by side last season with 'Saccaline.' The climatic conditions, of course, may be the reason for this, but I hope it will be successful with you." (Breakwell.)

Mangifera indica (Anacardiaceae), 54526. **Mango.** From Port of Spain, Trinidad, British West Indies. Plants presented by Mr.R.O.Williams, Curator, St.Clair Experiment Station. "'Pere Louis' is a dwarf-growing variety, fruiting early. The plant from which the budwood was taken is a round-headed dwarf tree, branched to the ground. I remember receiving the 'Pere Louis' in Demerara, from St. Lucia, and this had much the same habit. I think that the dwarf, early-fruiting habit is inherent. I do not think that the stocks used have



THE ANDEAN RASPBERRY, NATURAL SIZE.

(*Rubus glaucus* Benth., S. P. I. No. 52734.)

Fruiting branch with green fruits and a single mature berry of the Andean raspberry (*Rubus glaucus*), which is cultivated in many highland gardens in southern Colombia and Ecuador. Its fruit, which is dark maroon colored when ripe, is very juicy, sweet, and of somewhat richer flavor than the black raspberry of northern gardens. The species may prove of value for cultivation in the Gulf States, and it is being used by plant breeders to cross with other raspberries. (Photographed by Wilson Popenoe, Ambato, Ecuador, January, 1921; P18355FS.)

A WILD RED RASPBERRY FROM THE VOLCANO OF TUNGURAHUA.

(*Rubus* sp., S. P. I. No. 53218.)

This raspberry, of which a fruiting branchlet is here shown in natural size, grows on the slopes of the Ecuadorean volcano Tungurahua, between elevations of 9,000 and 13,000 feet. Its fruit is deep red in color and of pleasant subacid flavor. The plant is a vigorous grower, sending up canes 10 feet or more in length. It may prove valuable in the southern United States. (Photographed by Wilson Popenoe, Banos, Tungurahua, Ecuador, March 11, 1921; P18479FS.)

anything to do with it because they are taken indiscriminately and when sufficiently large are grafted upon." (J. F. Waby, Acting Curator.)

"The 'Louis' bears very young, has no fiber nor any sourness at the core, and the flavor is nearly as good as that of the 'Julie,' which is the best for flavor I have ever eaten." (O. W. Barrett.)

Melocanna baccifera (Poaceae), 54430. **Bamboo**. From Dehra Dun, U. P., India. Seeds presented by Mr. R.S. Hole, Forest Botanist, Forest Research Institute and College. "Muli" or "Moorli." The Terai Bamboo. This is an evergreen arborescent bamboo, unarmed and beautifully erect without any bend or inequality of surface. It grows in its native habitat, the Chittagong Hills, to a height of 30 to 50 feet with a circumference of 12 to 13 inches at the base. Melocanna, though indigenous to Chittagong, is also found all over eastern Bengal and Burma; it delights in a sandy soil, and dry spots suit it admirably.

The culms sprout at some distance from each other from an underground ramifying rhizome; and though thin-walled, the bamboo is strong and durable, being largely used for mats and building purposes. It is also observed that white ants and other insects, so destructive to the dry bamboo, seldom attack Melocanna. This bamboo also yields more or less "tabasheer," locally called "choona" (lime), but its most remarkable feature is the large fleshy fruit. This berry is the shape of an inverted pear, 3 to 5 inches long, with a long curved tapering point. There is a single oval seed inside the pericarp. The fruit is eaten by the natives. (Adapted from Proceedings and Journal of the Agricultural and Horticultural Society of India, 1913, p.62.)

Persea americana (Lauraceae), 54273. **Avocado**. From Ecuador. Collected by Mr. Wilson Popenoe, Agricultural Explorer. Quoted notes by Mr. Popenoe. "(No.630. Ibarra, Ecuador.) Cuttings of Avocado No. 51. 'Carchi.' The parent tree is growing in one of the 'huertas' of the Hacienda San Vicente, about half a mile north of the house. This variety, except for its color, might be called a Mexican 'Trapp.' It has the form of the latter, and it also has a seed somewhat larger than the ideal; but if the size of the fruit increases when the variety is given the advantage of good culture in the United States, it may prove to be a valuable sort. The fruit is oblate, about 8 ounces in weight, purple

when ripe,with yellow flesh of good flavor and quality. The seed is sometimes loose in the cavity."

Quercus serrata (Fagaceae), 54433. **Oak.** From Rochester,N. Y. Acorns presented by Mr. John Dunbar,Assistant Superintendent of Parks. "A half-evergreen oak native to Japan and Chosen. We have grown it here for about twenty years and it seems to be perfectly hardy. Two trees fruited quite freely this year,but Dr. Sargent has no record of any other trees having produced mature nuts in this country.

"Being of a half-evergreen nature the leaves remain green until very late in the season; sometimes they assume a dull yellow color. I think it is one of the most ornamental of the different species of oaks which have been introduced from Japan." (Dunbar.)

Notes on Behavior of Previous Introductions.

Amygdalus davidiana (Amygdalaceae),36664. **Peach.** From Peking,Chihli, China. "I set out 20 or 30 trees on my farm in Vermont and top-worked them to different varieties of peaches and a few plums. They have done exceptionally well and the stock apparently has imparted to them some of its hardiness, for the peaches which were top-worked on this stock have suffered much less from winter injury than many of the others."(W.H. Darrow, Extension Pomologist, Storrs, Conn. February 17, 1922.)

Amygdalus persica (Amygdalaceae), 41395. **Peach.** From Kaying, Kwantung, China. "Planted 1920, the tree blossomed and set two dozen fruits in 1921. One of the most delicious peaches I have eaten; it has the flavor of a hot-house peach and is a beautiful yellow-pink color;the flesh is firm and,being a cling,cans well." (Mrs.N.C.Sweet, Pasadena, California. December,1921.)

Begonia sp. (Begoniaceae),50613. **Begonia.** From Coban, Alta Verapaz,Guatemala. "A very fine plant with beautiful velvety leaves 9 inches in diameter. The plant is easy to grow and mine now has a spread of over 2 feet since it was planted in the spring of 1920. At a flower show held a few weeks ago it received first prize as a decorative plant. It is easily propagated from the leaves. ------ *Citrus limonia* (Rutaceae), 23028. **Lemon.** From Fengtai, Chihli, China. This specimen was received from you three years ago, and is doing well.

There have been as many as 20 ripe lemons at one time. The plant is now coming into flower again and is quite decorative; the flowers have a very sweet odor. My plant has a spread of 4 feet and stands about 3½ feet high." (W.S. Pilling, Philadelphia, Pa. Jan. 24,1922.)

Persea americana (Lauraceae), 44680. **Avocado.** From Purulá, Baja Verapaz, Guatemala. "The 'Mayapan' avocado withstood the cold splendidly and is as bright and green as any variety. In fact, nearly all of the avocados collected by Wilson Popenoe came through the winter all right." (Charles D. Adams, Upland, Calif. February 20, 1922.)

Persea americana (Lauraceae), 45562. **Avocado.** From San Lorenzo del Cubo, near Antigua,Guatemala. "Of all the avocados introduced by Mr. Popenoe from Guatemala in 1916-1917,I should say that the variety 'Ishim' is far hardier than any of the others. A small tree of our own budding went through the winter without protection when other trees of the 'Fuerte' variety were killed to the bud,therefore I conclude that the 'Ishim' is distinctly frost-resistant." (E.C. Dutton,Anaheim, Calif. January 24, 1922.)

Pistacia chinensis (Anacardiaceae), 29499. From Weihsien,Shantung,China. "This is a beautiful tree which has come here to stay. It is extremely hardy,enduring perfectly the highest temperature and continued drought, and is also a rapid grower." (J.W. Riggs, Waterloo, Kansas. February 23, 1922.)

Sageretia theezans (Rhamnaceae), 22987. From Soochow, Kiangsu, China. "This is a remarkable plant: I put it near a rose arbor, where it has formed a large bush, with branches 15 feet long, running over the rose arbor. In the autumn it bears large numbers of flowers." (Mrs. W.T. Tuggle, La Grange, Ga. February 15, 1922.)

Solanum tuberosum (Solanaceae), 45023. **Potato.** From Honolulu, Hawaii. "Last spring I received a small 2-ounce potato which I cut and planted March 14,1921, on dry land (not bottom land). I hoed and hilled them and on June 3, 1921, dug 15 pounds of good potatoes. August 15,I planted 14 pounds on bottom land,and then cultivated them but did not water them at all. November 10,I dug about 220 pounds of good sound potatoes, raised in a warm climate without water." (A.A. Hanisch, Roseville, Calif. January 12, 1922.)

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BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

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